

What is claimed is:

1. A computer readable medium encoded with an image data structure for facilitating the rendering of an image by an image processing device, comprising:

a first data field operable to store opaque data, the opaque data indicating whether image data is transparent or opaque; and

one or more pixel data fields associated with the first data field, the one or more pixel data fields operable to store first pixel data in each pixel data field when the opaque data indicates an image is opaque, and operable to store second pixel data and transparency data in each pixel field when the opaque data indicates that the image is transparent.

2. The computer readable medium of claim 1, wherein the one or more pixel data fields comprise:

a red pixel data field associated with the first data field, the red pixel data field operable to store first red pixel data when the opaque data indicates an image is opaque, and operable to store second red pixel data and first transparency data when the opaque data indicates that the image is transparent;

a green pixel data field associated with the first data field, the green pixel data field operable to store first green pixel data when the opaque data indicates an image is opaque, and operable to store second green pixel data and second transparency data when the opaque data indicates that the image is transparent; and

a blue pixel data field associated with the first data field, the blue pixel data field operable to store first blue pixel data when the opaque data indicates an image is opaque,

and operable to store second blue pixel data and third transparency data when the opaque data indicates that the image is transparent, wherein the first, second and third transparency data specify a transparency level of a pixel defined by the second red, green and blue pixel data.

5 3. The computer readable medium of claim 2, wherein the one or more pixel data fields comprise an approximated 5-6-5 pixel format when the opaque data indicates that the pixel data is transparent.

 4. The computer readable medium of claim 2, wherein the transparency level defined by the first, second and third transparency data comprise first, second and third
10 bits, respectively, the first bit for selecting one of a plurality of transparency operations for rendering an image and the second and third bits defining bit shifting and masking operands for the selected transparency operation.

 5. The computer readable medium of claim 2, wherein the first, second and third bits define transparency levels according to a logarithmic increment.

15 6. A computer implemented method of processing image pixel data corresponding to an image pixel, comprising:

 determining if the image pixel is opaque or transparent;

 if the image pixel is determined to be opaque, then determining a pixel color value from a first set of the image pixel data; and

20 if the image pixel is determined to be transparent, then:

 determining a transparency value from a second set of the image pixel data;

and

determining a pixel color value from a third set of the image pixel data;
wherein the second and third sets of the image pixel data are subsets of the first set
of image pixel data.

7. The method of claim 6, further comprising:

5 storing the image pixel data in a first memory store;
storing displayed image pixel data in a second memory store;
if the image pixel is determined to be transparent, then:

determining a bit shift value based on the transparency value; and

performing a bit shift of the bit shift value on the image pixel data stored in
10 the first memory store and displayed image pixel data in the second memory store to
determine a new displayed image pixel data.

8. The method of claim 7, wherein performing a bit shift of the bit shift value on
the image pixel data stored in the first memory store and displayed image pixel data in the
second memory store to determine the new displayed image pixel data comprises:

15 selecting a first set of shifting operations if the transparency value corresponds to
a first characteristic; and

selecting a second set of shifting operations if the transparency value corresponds
to a second characteristic.

9. The method of claim 6, wherein the transparency value is one of a plurality
20 of logarithmic transparency values.

10. A mobile communication device including an image processing device, the
image processing device operable to process image pixel data corresponding to an image

pixel and comprising:

means for determining if the image pixel is opaque or transparent;

means for determining a pixel color value from a first set of image pixel data when the image pixel is determined to be opaque; and

5 means for determining a transparency value from a second set of the image pixel data and for determining a pixel color value from a third set of the image pixel data if the image pixel data is determined to be transparent, wherein the second and third sets of the image pixel data are subsets of the first set of image pixel data.

11. The mobile device of claim 10, wherein the means for determining if the
10 image pixel is opaque or transparent comprises a first data field stored in a computer readable medium in the mobile device and operable to store opaque data, the opaque data indicating whether image data is transparent or opaque.

12. The mobile device of claim 10, wherein the means for determining a pixel
15 color value and the means for determining a transparency value comprise one or more pixel data fields associated with the first data field and stored in a computer readable medium in the mobile device, the one or more pixel data fields operable to store first pixel data in each pixel data field when the opaque data indicates an image is opaque, and operable to store second pixel data and transparency data in each pixel data field when the opaque data indicates that the image is transparent.

20 13. A mobile communication device, comprising:

a display device;

a memory module comprising a source image buffer and a destination image buffer,

the source image buffer operable to store first image data to be displayed on the display device, and the destination image buffer operable to store second image data to be displayed on the display device, the second image data comprising a first data field operable to store opaque data, the opaque data indicating whether second image data is transparent or opaque, and one or more pixel data fields associated with the first data field, the one or more pixel data fields operable to store first pixel color data when the opaque data indicates an image is opaque, and operable to store second pixel color data and transparency data when the opaque data indicates that the image is transparent.

14. The mobile communication device of claim 13, further comprising an imaging module operable to determine if the second image data is opaque or transparent based on the opaque data, to determine a pixel color value from the first pixel color data if the image is determined to be opaque, and to determine the pixel color value from the second pixel color data and to determine a transparency level from the transparency data if the image is determined to be transparent.

15. The mobile communication device of claim 13, wherein the second pixel color data comprise an approximated 5-6-5 pixel format when the opaque data indicates that the pixel data is transparent.

16. The mobile communication device of claim 15, wherein the opaque data comprises first, second and third transparency data bits that collectively define a transparency level.

17. The mobile communication device of claim 16, wherein the first bit corresponds to a selection from one of a plurality of transparency operations for rendering

an image and the second and third bits defining bit shifting and masking operands for the selected transparency operation.

18. The mobile communication device of claim 13, wherein the transparency data defines one of a plurality of logarithmic transparency values.

5 19. A computer data signal embodied in a carrier wave, comprising:

a first data segment comprising opaque data indicating whether image data is transparent or opaque; and

one or more pixel data segments associated with the first data segment, the one or more pixel data segments storing first pixel data in each pixel data segment when the
10 opaque data indicates an image is opaque, and storing second pixel data and transparency data in each pixel data segment when the opaque data indicates that the image is transparent.

20. The computer data signal of claim 19, wherein the one or more pixel data segments comprise:

15 a red pixel data segment associated with the first data segment, the red pixel data segment storing store first red pixel data when the opaque data indicates an image is opaque, and storing store second red pixel data and first transparency data when the opaque data indicates that the image is transparent;

a green pixel data segment associated with the first data segment, the green pixel
20 data segment storing first green pixel data when the opaque data indicates an image is opaque, and storing second green pixel data and second transparency data when the opaque data indicates that the image is transparent; and

a blue pixel data segment associated with the first data segment, the blue pixel data segment storing first blue pixel data when the opaque data indicates an image is opaque, and storing second blue pixel data and third transparency data when the opaque data indicates that the image is transparent.

- 5 21. The computer data signal of claim 20, wherein the first, second and third transparency data specify a transparency level of a pixel defined by the second red, green and blue pixel data.